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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,496	02/10/2006	Wolfgang Selt	4791-4016	2410
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MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101				
EXAMINER				
BHAT, NINA NMN				
ART UNIT		PAPER NUMBER		
1797				
NOTIFICATION DATE		DELIVERY MODE		
10/15/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/539,496

Applicant(s)

SELT ET AL.

Examiner

N. Bhat

Art Unit

1797

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11, 12 and 14-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9, 11, 12 and 14-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB08)
Paper No(s)/Mail Date 6-17-05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ ~~Notice of Informal Patent Application~~
- 6) ☐ Other: _____

DETAILED ACTION

1. The abstract of the disclosure is objected to because applicant has used the WIPO document abstract which includes the figure as well as other extraneous material. Applicant is requested to re-draft the abstract on a single page following the claims, directed to the claimed invention and should avoid recitations of "The invention relates", "The Invention", "Embodied" etc., Correction is required. See MPEP § 608.01(b).
2. Claims 12 and 14-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 12 and all the claims depending from claim 12; applicant has recited "Plant according...." The recitation of "Plant" or "A plant" does not clearly convey to one having ordinary skill in the art what is being encompassed and clearly recite what the device or system comprises and what is being claimed. In this case, applicant is claiming a control system which controls both the amount of granular material into and out of the reactor as well as controlling and monitoring the pressure as it relates with the screw conveyor. Does applicant mean to claim the building when reciting "A plant" or "Plant"? The ordinary US artisan when interpreting the term "Plant" would understand the plant to be the building or area where the process takes place, it certainly wouldn't mean the reactor or reactor plus controller. If applicant replaces the term "Plant" with --System-- this is interpreted to mean a device or apparatus. With this interpretation, applicant must recite in order to satisfy the requirements of 112, second paragraph, specifically, the apparatus or device being claimed, and all of the elements of the apparatus and the connectiveness between elements. Applicant is suggested to recite for example, "A fluidized bed reactor which is operatively connected with a conveying line for transport of granular material to the reactor, etc." Applicant is suggested to use means plus function language or element plus function language. Applicant is strongly suggested to

avoid the recitation of the terminology "A plant" or "Plant". Applicant is forewarned not to point out patents wherein the term "Plant" has been used in the claims, as this argument will not be persuasive and will not advance prosecution on the merits. Suitable correction is required. Similarly in claims 1-9 and 11, applicant is requested to avoid the recitation to the term "plant in these claims as this is not necessary and for reasons delineated above.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. Claims 1-9, 11, 12 and 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chrysostome et al., US Patent 4,552,203 in combination with Eriksson et al., US Patent 6,994,497.

Chrysostome et al. teach the invention substantially as claimed. Specifically, Chrysostome et al. teach a method and device for controlling the temperature of a fluidized bed reactor. Chrysostome et al. teach a cylindrical vessel reactor(1) which includes at its base, means for injecting fluidization gas (4) to the fluidized bed (2) of solid material. The vessel is connected through chimney (5) to a recovery chamber whose base is connected by a

recirculation duct (14) to inlet pipe (9) opening into an inlet (15) through which material recovered in the cyclone (6) is re-injected into the fluidized bed. Chrysostome et al. teach that the fines recovered into the cyclone (6) serve as a reserve of cold material intended to ensure the temperature regulation of the fluidized bed. Member (10) which is screw pump driving by motor wherein the rotation speed is controlled by a regulating device, wherein fine particles emerging can be entrained at a variable speed by the screw pump which can be re-introduced. The proportion of fine particles withdrawn can also be controlled using flow control devices such as a rotary lock. Chrysostome et al. teach that fine particles (22) from the cyclone (6) and withdrawn through duct (16) are collected where it forms a dense bed (23). The control member (10) controls the flow rate of fines recycled through duct (17). Chrysostome et al. teach that with the control member (10) it is possible to regulate more flexibly the flow rate and average temperature of the recycled particles and to modify simultaneously and in reverse direction of the flow rates of hot and cold particles and maintain the heat balance within the fluidized bed reactor and control specifically the temperature within the reactor. [Note Column 3, lines 25-49, Column 4, lines 23-52 and Column 5, lines 44-67]

However, Chrysostome et al. do not teach with the control of the conveyance of particles into and out of the reactor also monitoring the pressure conditions based on the airlift or cyclone.

Eriksson et al. teach a method and apparatus for treating high pressure particulate material which includes an apparatus for pneumatic conveyance of hot high pressure particulate material within a conveying line. The system includes a supply vessel (10) and an ash conveyor line (20) and a receiving vessel (40). The particulate material containing reaction products of a reactor is conveyed pneumatically from a supply vessel (10) at a pressure of at least 2 bar to a receiving vessel (40). Eriksson et al. teach that it is possible to arrange means

(16) for introducing of fluidizing gas at the bottom of the supply vessel. The supply vessel can consist of a bottom of a filter for fly ash removal from a high pressure fluidized bed reactor. The method of conveying particulate material containing the reaction product of a high pressure reactor from a vessel at high pressure to a receiving vessel which is at a lower pressure as taught by Eriksson et al. include the steps of pneumatically conveying the particulate materials charged from a supply vessel via a conveyor line to a collecting vessels such that the pressure of the material being conveyed is essentially the same pressure as is prevailing in the supply vessel, the rate of the carrier gas charged from the collecting vessel to control the flow rate of particulate material in the conveyor line is controlled as well as controlling the rest of the carrier gas which is discharged, while conveying the particle material, by controlling the flow rate of the carrier gas and the amount of material being conveyed, the pressure is controlled within the reactor. It would have been obvious from the teachings of both Chrysostome et al. and Eriksson et al. to provide a control system which is employed with a fluidized reactor or circulating reactor system which controls the pressure and temperature conditions within a fluidized bed reactor because the art recognizes that the temperature or heat balance of the fluidized bed reactor can be controlled by controlling the amount of solid particulate being conveyed into and out of the reactor, this type of control system has been particularly taught by Chrysostome et al. With respect to controlling pressure within the reactor by controlling the aspects of a fluidized bed reactor by supply material fed into and out of the reactor while maintaining and controlling the pressure conditions has been fairly taught by Erikson et al., to use both of these control methods for controlling the pressure and temperature of a fluidized bed reactor with respect to control of material being conveyed into and out of the reactor results in a cumulative effect or control and would therefore render applicant's invention as a whole obvious to one having ordinary skill in the art at the time the invention was made.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamagishi et al. teach method of controlling combustion of fluidized bed incinerators. Abdullally teach a fluidized bed combustion method utilizing fine and coarse sorbent feed. Durant et al. teach sorbent conditioning and direct feed apparatus. Ruottu et al. teach a method of controlling the temperature of reaction carried out in a fluidized bed reactor. Miyoshi et al. '522 which does not qualify as prior art is the closest art to applicant's invention.
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to N. Bhat whose telephone number is 571-272-1397. The examiner can normally be reached on Monday-Friday, 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/N. Bhat/
Primary Examiner, Art Unit 1797